

## CLAIMS

I/We claim:

- [c1]            1.     An active pixel comprising:  
                 a light sensing element formed in a semiconductor substrate;  
                 a sense node in electrical communication with said light sensing element  
for outputting a signal produced by said light sensing element;  
                 an amplification transistor controlled by said sense node, wherein said  
amplification transistor is a buried transistor formed in said semiconductor  
substrate.
- [c2]            2.     The pixel of Claim 1 wherein said light sensing element is selected  
from the group of photodiode, pinned photodiode, partially pinned photodiode, or  
photogate.
- [c3]            3.     The pixel of Claim 1 further including a transfer transistor operative  
to transfer said signal from said light sensing element to said sense node.
- [c4]            4.     The pixel of Claim 1 wherein said amplification transistor outputs an  
amplified version of said signal to a column bitline.
- [c5]            5.     The pixel of Claim 1 further including a reset transistor operative to  
reset said sense node to a reference voltage.

[c6]            6.        The pixel of Claim 1 wherein said buried transistor is replaced with a depletion mode transistor.

[c7]            7.        An active pixel for use in a CMOS image sensor comprising:  
a light sensing element formed in a semiconductor substrate;  
a sense node;  
a transfer transistor operative to transfer a signal produced by said light sensing element to said sense node; and  
an amplification transistor controlled by said sense node, wherein said amplification transistor is a body current transistor formed in said semiconductor substrate.

[c8]            8.        The pixel of Claim 7 wherein said light sensing element is selected from the group of photodiode, pinned photodiode, partially pinned photodiode, or photogate.

[c9]            9.        The pixel of Claim 7 wherein said transfer transistor is implemented as a buried transistor.

[c10]           10.       The pixel of Claim 7 wherein said amplification transistor outputs an amplified version of said signal to a column bitline.

[c11]            11.    The pixel of Claim 7 further including a reset transistor operative to reset said sense node to a reference voltage.

[c12]            12.    The pixel of Claim 7 wherein said body current transistor is a buried transistor or a depletion mode transistor formed in said semiconductor substrate.